

ABSTRACT OF THE DISCLOSURE

A loudspeaker that includes an acoustical enclosure that has an internal wall that divides the enclosure into first and second subchambers, an electro-acoustical transducer having a vibratable speaker cone mounted in an opening provided in the internal wall of the acoustical enclosure, an internal vent provided in the internal wall of the acoustical enclosure for pneumatically coupling the first and second subchambers, a first external vent provided in a wall of the first subchamber for pneumatically coupling the first subchamber to an exterior environment outside of the acoustical enclosure, and a second external vent provided in a wall of the second subchamber for pneumatically coupling the second subchamber to the exterior environment. In one embodiment, a ratio of the acoustic mass of the internal vent to the acoustic mass of the second external vent is in a range of approximately 3/1 to 7/1. In another embodiment, a ratio of the acoustic mass of the first external vent to the acoustic mass of the second external vent is in a range of approximately 15/1 to 30/1. In both embodiments, a ratio of the volume of the first subchamber to the volume of the second subchamber is in a range of approximately 0.3 to 2.5. In both embodiments, at least one of the internal and/or external vents can be substituted with a passive radiating element such as a drone cone.